PATENT ABSTRACTS OF JAPAN

(11)Publication number :   10-032724
(43)Date of publication of application : 03.02.1998

(51)Int.Cl.	HO4N 1/60
	G06T 1/00
	HO4N 1/46

(21)Application number : 08-185126   (71)Applicant : RICOH CO LTD
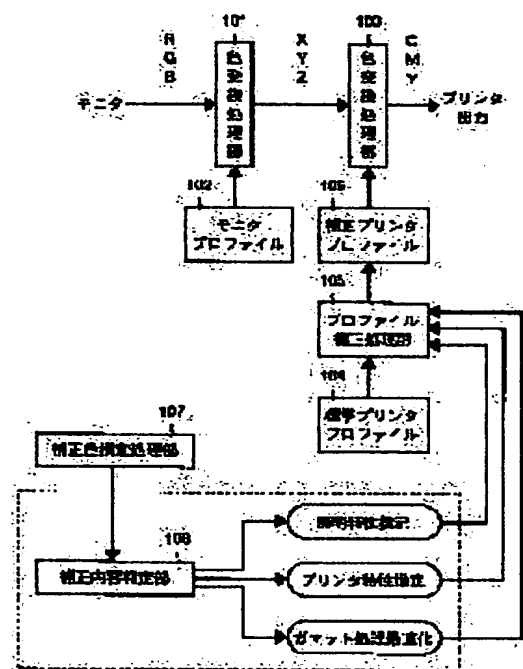(22)Date of filing :   15.07.1996   (72)Inventor : SHIRASAWA TOSHIO

(54) COLOR CONVERSION PARAMETER SETTING DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To precisely obtain the color reproducibility of a device in user environment without using a special measuring unit by designating a color range where a picture on an input device and a picture on an output device are not color matched as a correction object color and deciding a color conversion content based on a designated result.

SOLUTION: When a correction color designation processing part 107 designates the color to be corrected by a user, a correction content judgment part 108 judges whether all correction colors are in a reproduction area or not. When the designated correction colors are all the colors out of the reproduction area, a profile correction processing part 105 estimates only the taste of the user for a reproduction area compression method and corrects a parameter and displays a preview picture on which a compression processing beyond the reproduction area is executed on a monitor screen. When the color in the reproduction area of the correction color is contained or when the whole color balance is corrected, a method for estimating illumination environment and correcting the parameter and a method for estimating the gradation characteristic of a printer and correcting the parameter are executed in parallel.

LEGAL STATUS

[Date of request for examination]   03.12.2001
[Date of sending the examiner's decision of rejection]
[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]
[Date of final disposal for application]
[Patent number]
[Date of registration]
[Number of appeal against examiner's decision of rejection]
[Date of requesting appeal against examiner's decision of rejection]
[Date of extinction of right]

JAPANESE [JP,10-032724,A]

CLAIMS <u>DETAILED DESCRIPTION</u> <u>TECHNICAL FIELD</u> <u>PRIOR ART</u> <u>EFFECT OF THE INVENTION</u> <u>TECHNICAL PROBLEM</u> <u>MEANS</u> <u>DESCRIPTION OF DRAWINGS</u> <u>DRAWINGS</u> <u>CORRECTION OR AMENDMENT</u>

[Translation done.]

CLAIMS

[Claim(s)]
[Claim 1] Color image information inputted from an input device In color conversion parameter setup equipment which is the system which carries out color reproduction by output device based on profile information, and reconstructs or corrects a color conversion parameter of profile information when an image on said input device and an image on said output device do not carry out color matching An amendment color specification means to specify a color gamut in which an image does not carry out color matching between said two devices as a color for amendment, Color conversion parameter setup equipment characterized by having the contents judging means of amendment which judges and chooses the contents of amendment over a color for amendment specified by said amendment color specification means, and an amendment processing means to amend said profile information based on a judgment result of said contents judging means of amendment.
[Claim 2] Said contents judging means of amendment is color conversion parameter setup equipment according to claim 1 characterized by to choose one or more of the 1st method of amending lighting environment and amending a parameter, the 2nd method of presuming the gradation property of said output device and amending a parameter, or the 3rd methods of presuming liking of an observer to a reappearance region compression method, and amending a parameter.
[Claim 3] Color conversion parameter setup equipment according to claim 2 which a color whose image of said input device and said output device does not correspond with said amendment color specification means is specified, and is characterized by performing only adjustment of a reappearance compression method when this assignment color is the color gamut which cannot reproduce an output device.
[Claim 4] A display means to display an output state of a color chart when preparing a manuscript for color evaluation containing a color chart whose colorimetry value in predetermined illumination-light environment is known, and observing said manuscript for color evaluation at least under two or more illumination light from which a class differs, A lighting presumption means to choose an image near a color of an actual evaluation manuscript from an image displayed on said display means, and to presume a class for observation lighting from this selection result, Color conversion parameter setup equipment according to claim 1 characterized by preparing for a pan and said amendment processing means amending said profile information using a profile for the light sources corresponding to a class of lighting presumed by said lighting presumption means.
[Claim 5] Prepare a manuscript for color evaluation with which a color value in criteria lighting environment contains two or more known color charts at least, and it is based on a color chart when observing said manuscript for color evaluation in criteria lighting environment. Two or more color chart images contained in a predetermined color range A display means to display, and a color value calculation means to choose a color chart image with nearest vanity of a color from said displayed image for said every color chart, and to calculate an actual color value in observation environment for every color chart from a color value of a this chosen color chart image, A lighting presumption means to presume the property of illumination light from a color value in criteria lighting environment, and said computed color value, Color conversion parameter setup equipment according to claim 1 characterized by preparing for a pan, and for said amendment processing means asking for a transform function about illumination light presumed by said lighting presumption means, and amending said profile information.
[Claim 6] A manuscript for color evaluation with which a gray scale image is printed at least, and two or more gradation nature data created based on the gradation nature property of a printer used for standard profile creation time, A display means to display a gray scale image which prepared and corresponded for said every gradation nature data on the same screen, A gradation nature presumption means to choose nearest gray scale image among two or more gray scale images with which a gray scale image of said manuscript for color evaluation was displayed on said display means, and to presume a gradation nature property from this selection

result, Color conversion parameter setup equipment according to claim 1 characterized by preparing for a pan and said amendment processing means amending said profile information using gradation nature data corresponding to a gradation nature property presumed by said gamma presumption means.

[Claim 7] An image for evaluation displayed with said manuscript for color evaluation and said display means is color conversion parameter setup equipment according to claim 6 characterized by being two or more monochrome patches with which concentration corresponding to color material of an output device differs.

[Claim 8] An image for evaluation displayed with said manuscript for color evaluation and said display means is color conversion parameter setup equipment according to claim 6 characterized by being two or more GURAJUESHON patterns corresponding to color material of an output device.

[Claim 9] Prepare predetermined image data for color evaluation containing two or more color chart data, and it is based on a color of a color pattern when outputting said image data for color evaluation by proofread output device. Two or more color chart images contained in a predetermined color range A display means to display, and an output color color value calculation means to choose a color chart image with nearest vanity of a color from said displayed image for said every color chart, and to calculate an actual color value for every color chart from a color value of a this chosen color chart image, A gradation property presumption means to presume the gradation property of an output device from a color value of a color chart [finishing / proofreading], and an actual output color color value, Color conversion parameter setup equipment according to claim 1 characterized by preparing for a pan and said amendment processing means amending said profile information based on a gradation property presumed by said gradation property presumption means.

[Claim 10] Color conversion parameter setup equipment according to claim 9 characterized by preparing an output sample by output device [finishing / image / evaluation / proofreading / beforehand], arranging near the output sample by output device said whose output sample is not proofread, and performing an image and comparative evaluation of said display means.

[Claim 11] A display image of said display means is color conversion parameter setup equipment according to claim 6 or 9 characterized by what a predetermined noise corresponding to the graininess of an output device is added, and is displayed.
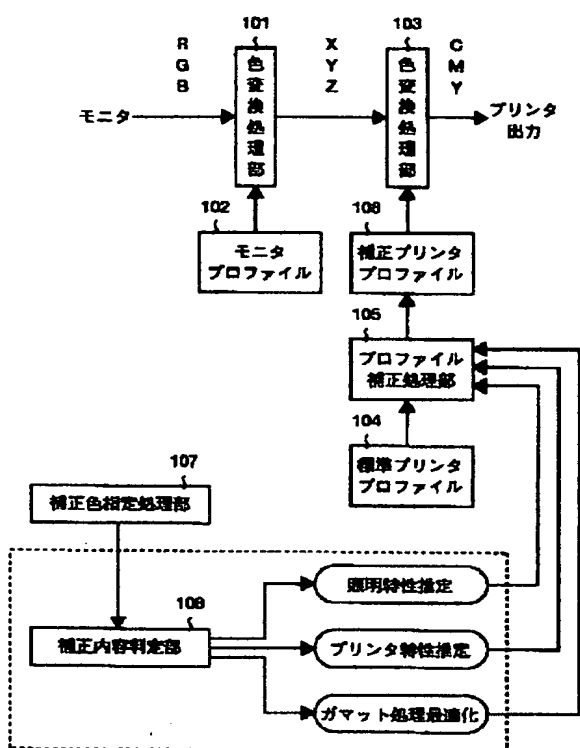
[Claim 12] Said gradation property is color conversion parameter setup equipment according to claim 9 characterized by being presumption of the gamma property of an output device.

[Claim 13] Said gradation property is color conversion parameter setup equipment according to claim 9 characterized by being amended with a parameter of a color prediction type which predicts a colorimetry signal from an output signal of an output device.

[Claim 14] Said amendment processing means is color conversion parameter setup equipment according to claim 13 characterized by reconstructing a color conversion parameter of an output device based on a color prediction type.

[Claim 15] The color conversion parameter setup equipment according to claim 1 carry out making the image prepare the output sample which outputted the predetermined image for evaluation by reappearance region compression processing that plurality differs, carry out comparative evaluation in the display means which carries out the display output of the predetermined image for evaluation before compression, and the image displayed on said display means and said output sample, and carry out as liking choose, and determining the parameter for reappearance region compression based on this selection result as the feature.

[Translation done.]

[Translation done.]